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## **Appendix 6.4**

# **Linsig & Junctions 9 Modelling Results**

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## A.1. Le Fanu Road Bridge (OBC7) Closure - Delay Modelling

### A.1.1. JTC 1

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 8.5                  | 27.5          | 42.6    | 4.9                  | 18.6          | 28.7    |
| Kylemore Avenue                                  | 3.0                  | 25.7          | 18.4    | 6.1                  | 40.2          | 40.5    |
| Le Fanu Rd Northbound                            | 5.1                  | 26.1          | 29.0    | 12.6                 | 21.8          | 57.4    |
| Raheen park                                      | 7.7                  | 30.8          | 42.7    | 7.3                  | 49.4          | 55.9    |
| <b>PRC (%)</b>                                   | 111.0                |               |         | 56.9                 |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2022)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 3.8                  | 37.3          | 28.8    | 4.2                  | 49.6          | 39.4    |
| Kylemore Avenue                                  | 4.0                  | 19.3          | 22.9    | 7.9                  | 13.9          | 39.8    |
| Le Fanu Rd Northbound                            | 0.2                  | 33.9          | 1.3     | 0.2                  | 43.0          | 1.9     |
| Raheen park                                      | 5.6                  | 16.8          | 28.5    | 3.1                  | 10.6          | 18.5    |
| <b>PRC (%)</b>                                   | 212.5                |               |         | 126.3                |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2028)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 4.0                  | 36.6          | 29.6    | 4.4                  | 50.1          | 41.5    |
| Kylemore Avenue                                  | 4.0                  | 20.6          | 24.9    | 8.5                  | 14.2          | 41.8    |
| Le Fanu Rd Northbound                            | 0.2                  | 33.1          | 1.2     | 0.2                  | 43.1          | 2.2     |
| Raheen park                                      | 5.9                  | 17.5          | 30.3    | 3.4                  | 10.6          | 19.4    |
| <b>PRC (%)</b>                                   | 197.1                |               |         | 115.4                |               |         |

## A.1.2. JTC2

## A.1.3. JTC 2

### Junction 9

| Arm                                       | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                |             |           |      |     |             |           |      |     |
| Kylemore Ave                              | 1.6         | 25.7      | 0.62 | D   | 3.4         | 57.27     | 0.80 | F   |
| Kylemore Rd Northbound                    | 0.7         | 4.87      | 0.20 | A   | 1.2         | 7.11      | 0.36 | A   |
| Le Fanu Road Bridge (OBC7) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore Ave                              | 155.5       | 1755.97   | 2.00 | F   | 162.6       | 2921.28   | 2.68 | F   |
| Kylemore Rd Northbound                    | 1.4         | 4.74      | 0.30 | B   | 4.4         | 11.89     | 0.61 | B   |

### LinSig

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| Do Nothing Scenario (2022)                                     |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 8.7                  | 9.3           | 50.4    | 6.0                  | 7.3           | 40.0    |
| Kylemore Rd Northbound   | 9.9                  | 10.5          | 57.2    | 12.9                 | 10.5          | 64.5    |
| Kylemore Ave   | 5.2                  | 41.8          | 55.7    | 5.6                  | 46.5          | 61.7    |
| <b>PRC (%)</b>   | 57.4                 |               |         | 39.6                 |               |         |
| Le Fanu Road Bridge (OBC7) Closure (2022)                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 18.0                 | 19.0          | 75.1    | 8.3                  | 8.3           | 49.4    |
| Kylemore Rd Northbound   | 19.7                 | 20.8          | 79.1    | 84.3                 | 132.1         | 105.4   |
| Kylemore Ave   | 11.0                 | 42.9          | 77.6    | 17.9                 | 134.0         | 100.1   |
| <b>PRC (%)</b>   | 13.1                 |               |         | -17.9                |               |         |
| Le Fanu Road Bridge (OBC7) Closure (2028)                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 19.9                 | 20.5          | 78.7    | 9.0                  | 8.6           | 51.8    |
| Kylemore Rd Northbound   | 21.9                 | 23.0          | 83.0    | 120.7                | 209.9         | 110.6   |
| Kylemore Ave   | 12.1                 | 46.0          | 81.3    | 24.3                 | 193.2         | 105.1   |
| <b>PRC (%)</b>   | 8.4                  |               |         | -22.8                |               |         |
| Le Fanu Road Bridge (OBC7) Closure Sensitivity Analysis (2028) |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 17.4                 | 17.9          | 73.4    | 8.4                  | 8.3           | 49.8    |
| Kylemore Rd Northbound   | 19.0                 | 19.4          | 77.6    | 55.0                 | 64.3          | 100.3   |
| Kylemore Ave   | 10.3                 | 42.9          | 76.1    | 15.2                 | 11.9          | 97.2    |
| <b>PRC (%)</b>   | 16.1                 |               |         | -11.4                |               |         |

### A.1.4. JTC 3

| Arm   | AM Peak              |               |         | PM Peak              |               |         |
|---|----------------------|---------------|---------|----------------------|---------------|---------|
|   | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                                     |                      |               |         |                      |               |         |
| Kylemore Rd Southbound  | 11.9                 | 12.8          | 59.5    | 11.1                 | 15.7          | 57.0    |
| Landen Rd   | 5.3                  | 48.0          | 60.3    | 6.5                  | 45.1          | 63.2    |
| Kylemore Rd Northbound  | 8.9                  | 11.0          | 48.4    | 14.4                 | 17.2          | 64.8    |
| <b>PRC (%)</b>  | 49.3                 |               |         | 38.8                 |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2022)</b>                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound  | 37.8                 | 48.2          | 97.0    | 15.9                 | 14.0          | 69.6    |
| Landen Rd   | 9.6                  | 131.2         | 95.2    | 12.3                 | 131.4         | 96.9    |
| Kylemore Rd Northbound  | 15.4                 | 16.6          | 69.7    | 44.2                 | 45.2          | 97.3    |
| <b>PRC (%)</b>  | -7.7                 |               |         | -8.7                 |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2028)</b>                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound  | 54.5                 | 88.3          | 101.7   | 17.4                 | 15.0          | 73.0    |
| Landen Rd   | 11.6                 | 159.2         | 99.2    | 15.8                 | 174.6         | 101.8   |
| Kylemore Rd Northbound  | 17.1                 | 17.7          | 73.1    | 64.4                 | 88.9          | 102.1   |
| <b>PRC (%)</b>  | -13.0                |               |         | -13.4                |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure Sensitivity Analysis (2028)</b> |                      |               |         |                      |               |         |
| Kylemore Rd Southbound  | 36.2                 | 46.3          | 96.4    | 16.0                 | 14.6          | 69.9    |
| Landen Rd   | 8.7                  | 107.1         | 91.5    | 12.30                | 118.0         | 95.5    |
| Kylemore Rd Northbound  | 15.9                 | 17.5          | 7.06    | 38.1                 | 36.6          | 95.0    |
| <b>PRC (%)</b>  | -7.1                 |               |         | -6.1                 |               |         |

## A.1.5. JTC 4

### Junction9

| Arm                        | AM Peak     |           |      |     | PM Peak     |           |      |     |
|----------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                            | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022) |             |           |      |     |             |           |      |     |
| Kylemore North Park        | 1.8         | 19.3      | 0.62 | C   | 45.3        | 285.62    | 1.16 | F   |
| Kileen Rd                  | 2.6         | 18.63     | 0.67 | C   | 3.2         | 15.6      | 0.69 | C   |

### LinSig

| Arm                        | AM Peak              |               |         | PM Peak              |               |         |
|----------------------------|----------------------|---------------|---------|----------------------|---------------|---------|
|                            | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| Do Nothing Scenario (2022) |                      |               |         |                      |               |         |
| Le Fanu Rd                 | 7.7                  | 14.0          | 38.0    | 5.5                  | 18.5          | 28.8    |
| Kylemore North Park        | 9.0                  | 40.5          | 53.7    | 14.4                 | 36.2          | 67.0    |
| Kileen Rd                  | 10.2                 | 23.5          | 52.8    | 16.6                 | 29.2          | 66.1    |
| <b>PRC (%)</b>             | 67.4                 |               |         | 34.4                 |               |         |

## A.1.6. JTC 5

### Junction 9

| Arm                                       | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                |             |           |      |     |             |           |      |     |
| Kylemore Park North left                  | 0.6         | 12.03     | 0.35 | B   | 0.9         | 14.13     | 0.46 | B   |
| Kylemore Park North right                 | 0.3         | 21.94/    | 0.25 | C   | 0.5         | 25.89     | 0.35 | D   |
| Kylemore Rd Southbound                    | 3.8         | 14.07     | 0.67 | B   | 3.0         | 12.61     | 0.64 | B   |
| Le Fanu Road Bridge (OBC7) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore Park North left                  | 335.4       | /         | /    | F   | 794.1       | /         | /    | F   |
| Kylemore Park North right                 | 45.0        | /         | /    | F   | 72.6        | /         | /    | F   |
| Kylemore Rd Southbound                    | 433.4       | 1977.39   | 1.72 | F   | 461.7       | 2143.19   | 1.78 | F   |

### LinSig

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| Do Nothing Scenario (2022)                                     |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 10.3                 | 11.9          | 55.6    | 11.0                 | 15.8          | 58.1    |
| Kylemore Rd Northbound   | 7.3                  | 8.7           | 45.1    | 9.8                  | 11.2          | 53.7    |
| Kylemore Park North  | 5.5                  | 40.4          | 54.0    | 6.6                  | 38.2          | 57.7    |
| <b>PRC (%)</b>   | 62.0                 |               |         | 55.0                 |               |         |
| Le Fanu Road Bridge (OBC7) Closure (2022)                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 138.7                | 357.7         | 119.6   | 179.2                | 644.0         | 143.7   |
| Kylemore Rd Northbound   | 8.3                  | 8.3           | 42.2    | 14.4                 | 16.9          | 56.9    |
| Kylemore Park North  | 59.3                 | 412.3         | 120.0   | 164.1                | 644.0         | 140.8   |
| <b>PRC (%)</b>   | -33.3                |               |         | -59.7                |               |         |
| Le Fanu Road Bridge (OBC7) Closure (2028)                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 184.6                | 480.8         | 129.2   | 215.1                | 749.4         | 155.2   |
| Kylemore Rd Northbound   | 8.6                  | 8.1           | 43.9    | 15.0                 | 16.1          | 58.1    |
| Kylemore Park North  | 80.5                 | 553.9         | 131.4   | 205.7                | 784.6         | 155.9   |
| <b>PRC (%)</b>   | -46.0                |               |         | -73.2                |               |         |
| Le Fanu Road Bridge (OBC7) Closure Sensitivity Analysis (2028) |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 95.9                 | 228.9         | 110.6   | 140.4                | 491.6         | 129.3   |
| Kylemore Rd Northbound   | 8.5                  | 8.7           | 42.9    | 14.2                 | 16.2          | 55.9    |
| Kylemore Park North  | 38.0                 | 256.5         | 108.9   | 115.1                | 496.4         | 127.5   |
| <b>PRC (%)</b>   | -22.9                |               |         | -43.7                |               |         |

## A.1.7. HC 1

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 15.0                 | 59.6          | 88.5    | 10.6                 | 45.9          | 68.8    |
| Ballyfermot Rd Westbound                         | 10.4                 | 27.7          | 58.2    | 13.0                 | 29.9          | 59.1    |
| Le Fanu Rd Southbound                            | 6.6                  | 55.1          | 67.9    | 6.5                  | 51.3          | 55.2    |
| Ballyfermot Rd Eastbound                         | 21.0                 | 45.6          | 89.9    | 16.0                 | 33.8          | 70.3    |
| <b>PRC (%)</b>                                   | 0.1                  |               |         | 28.1                 |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2022)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 11.6                 | 50.9          | 81.8    | 9.1                  | 44.0          | 65.5    |
| Ballyfermot Rd Westbound                         | 9.3                  | 25.7          | 53.0    | 13.3                 | 29.0          | 58.4    |
| Le Fanu Rd Southbound                            | 3.0                  | 45.7          | 40.0    | 0.7                  | 43.5          | 7.8     |
| Ballyfermot Rd Eastbound                         | 18.0                 | 35.9          | 83.8    | 14.5                 | 30.6          | 66.4    |
| <b>PRC (%)</b>                                   | 7.4                  |               |         | 35.6                 |               |         |
| <b>Le Fanu Road Bridge (OBC7) Closure (2028)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                            | 13.1                 | 55.6          | 85.8    | 10.0                 | 45.3          | 68.8    |
| Ballyfermot Rd Westbound                         | 10.0                 | 26.3          | 55.7    | 14.1                 | 29.8          | 61.3    |
| Le Fanu Rd Southbound                            | 3.2                  | 46.0          | 42.0    | 0.7                  | 43.6          | 8.3     |
| Ballyfermot Rd Eastbound                         | 20.3                 | 40.3          | 87.8    | 16.0                 | 31.8          | 69.5    |
| <b>PRC (%)</b>                                   | 2.5                  |               |         | 29.6                 |               |         |

A.1.8. HC 2

| Arm  | AM Peak     |           |      |     | PM Peak     |           |      |     |
|--|-------------|-----------|------|-----|-------------|-----------|------|-----|
|  | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                                     |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound   | 1.3         | 8.93      | 0.57 | A   | 0.8         | 6.81      | 0.45 | A   |
| Ballyfermot Rd Westbound                                       | 0.8         | 5.08      | 0.43 | A   | 1.2         | 6.17      | 0.54 | A   |
| Kylemore Rd Northbound   | 1.4         | 6.41      | 0.57 | A   | 1.3         | 6.05      | 0.55 | A   |
| Ballyfermot Rd Eastbound                                       | 2.4         | 14.62     | 0.70 | B   | 2.5         | 14.78     | 0.71 | B   |
| Le Fanu Road Bridge (OBC7) Closure (2022)                      |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound   | 1.7         | 11.72     | 0.63 | B   | 0.9         | 7.60      | 0.47 | A   |
| Ballyfermot Rd Westbound                                       | 0.9         | 5.97      | 0.47 | A   | 1.0         | 6.01      | 0.50 | A   |
| Kylemore Rd Northbound   | 1.6         | 6.42      | 0.61 | A   | 1.9         | 6.96      | 0.65 | A   |
| Ballyfermot Rd Eastbound                                       | 10.3        | 52.30     | 0.93 | F   | 4.9         | 28.44     | 0.84 | D   |
| Le Fanu Road Bridge (OBC7) Closure (2028)                      |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound   | 2.1         | 13.62     | 0.68 | B   | 1.1         | 8.34      | 0.51 | A   |
| Ballyfermot Rd Westbound                                       | 1.0         | 6.41      | 0.50 | A   | 1.6         | 7.60      | 0.60 | A   |
| Kylemore Rd Northbound   | 1.9         | 7.03      | 0.64 | A   | 2.5         | 8.85      | 0.71 | A   |
| Ballyfermot Rd Eastbound                                       | 20.4        | 93.28     | 1.00 | F   | 7.7         | 43.23     | 0.90 | E   |
| Le Fanu Road Bridge (OBC7) Closure Sensitivity Analysis (2028) |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound   | 2.0         | 12.74     | 0.66 | B   | 1.0         | 7.98      | 0.50 | A   |
| Ballyfermot Rd Westbound                                       | 0.6         | 5.00      | 0.37 | A   | 1.1         | 6.13      | 0.51 | A   |
| Kylemore Rd Northbound   | 1.8         | 6.73      | 0.62 | A   | 2.1         | 7.94      | 0.68 | A   |
| Ballyfermot Rd Eastbound                                       | 11.2        | 56.98     | 0.94 | F   | 5.4         | 31.02     | 0.85 | D   |



## A.2. Kylemore Road Bridge (OBC5A) Closure - Delay Modelling

### A.2.1. JTC 1

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>          |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                      | 8.5                  | 27.5          | 42.6    | 4.9                  | 18.6          | 28.7    |
| Kylemore Avenue                            | 3.0                  | 25.7          | 18.4    | 6.1                  | 40.2          | 40.5    |
| Le Fanu Rd Northbound                      | 5.1                  | 26.1          | 29.0    | 12.6                 | 21.8          | 57.4    |
| Raheen park                                | 7.7                  | 30.8          | 42.7    | 7.3                  | 49.4          | 55.9    |
| <b>PRC (%)</b>                             | 111.0                |               |         | 56.9                 |               |         |
| <b>Kylemore Road Bridge Closure (2022)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                      | 25.9                 | 49.6          | 88.6    | 14.8                 | 33.0          | 64.1    |
| Kylemore Avenue                            | 12.1                 | 33.5          | 61.8    | 12.3                 | 34.8          | 62.0    |
| Le Fanu Rd Northbound                      | 5.2                  | 30.2          | 35.3    | 17.7                 | 40.9          | 77.5    |
| Raheen park                                | 13.8                 | 68.4          | 84.9    | 11.3                 | 64.0          | 79.1    |
| <b>PRC (%)</b>                             | 1.6                  |               |         | 13.8                 |               |         |
| <b>Kylemore Road Bridge Closure (2028)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound                      | 28.4                 | 53.6          | 91.2    | 16.0                 | 34.1          | 67.3    |
| Kylemore Avenue                            | 12.2                 | 34.5          | 62.7    | 13.1                 | 35.9          | 65.2    |
| Le Fanu Rd Northbound                      | 5.5                  | 30.5          | 37.7    | 20.4                 | 47.6          | 84.8    |
| Raheen park                                | 16.8                 | 89.9          | 92.6    | 13.2                 | 79.2          | 87.4    |
| <b>PRC (%)</b>                             | -2.9                 |               |         | 3.0                  |               |         |

## A.2.2. JTC 2

| Arm   | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                  |             |           |      |     |             |           |      |     |
| Kylemore Ave                                | 1.6         | 25.7      | 0.62 | D   | 3.4         | 57.27     | 0.80 | F   |
| Kylemore Rd Northbound                      | 0.7         | 4.87      | 0.20 | A   | 1.2         | 7.11      | 0.36 | A   |
| Kylemore Road Bridge (OBC5A) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore Ave                                | 0.5         | 12.06     | 0.35 | B   | 0.5         | 14.13     | 0.33 | B   |
| Kylemore Rd Northbound                      | 1.8         | 17.95     | 0.60 | C   | 2.1         | 22.35     | 0.64 | C   |
| Kylemore Road Bridge (OBC5A) Closure (2028) |             |           |      |     |             |           |      |     |
| Kylemore Ave                                | 0.6         | 12.75     | 0.37 | B   | 0.6         | 15.41     | 0.36 | C   |
| Kylemore Rd Northbound                      | 2.1         | 20.50     | 0.64 | C   | 2.7         | 27.00     | 0.70 | D   |

### A.2.3. JTC 3

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                  |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                             | 11.9                 | 12.8          | 59.5    | 11.1                 | 15.7          | 57.0    |
| Landen Rd  | 5.3                  | 48.0          | 60.3    | 6.5                  | 45.1          | 63.2    |
| Kylemore Rd Northbound                             | 8.9                  | 11.0          | 48.4    | 14.4                 | 17.2          | 64.8    |
| <b>PRC (%)</b>                                     | 49.3                 |               |         | 38.8                 |               |         |
| <b>Kylemore Road Bridge (OBC5A) Closure (2022)</b> |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                             | 0.4                  | 1.7           | 9.9     | 0.7                  | 2.2           | 11.2    |
| Landen Rd  | 4.8                  | 40.5          | 48.6    | 6.3                  | 44.3          | 60.9    |
| Kylemore Rd Northbound                             | 9.5                  | 12.2          | 50.0    | 13.9                 | 16.4          | 63.7    |
| <b>PRC (%)</b>                                     | 80.1                 |               |         | 41.4                 |               |         |
| <b>Kylemore Road Bridge (OBC5A) Closure (2028)</b> |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                             | 0.5                  | 1.8           | 10.3    | 0.7                  | 2.2           | 11.7    |
| Landen Rd  | 5.1                  | 41.2          | 51.2    | 6.8                  | 45.6          | 64.0    |
| Kylemore Rd Northbound                             | 10.2                 | 12.6          | 52.4    | 15.1                 | 17.1          | 66.7    |
| <b>PRC (%)</b>                                     | 71.1                 |               |         | 34.8                 |               |         |

## A.2.4. JTC 4

### Junction 9

| Arm   | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                  |             |           |      |     |             |           |      |     |
| Kylemore North Park                         | 1.8         | 19.3      | 0.62 | C   | 45.3        | 285.62    | 1.16 | F   |
| Kileen Rd                                   | 2.6         | 18.63     | 0.67 | C   | 3.2         | 15.6      | 0.69 | C   |
| Kylemore Road Bridge (OBC5A) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore North Park                         | 3.7         | 41.56     | 0.79 | E   | 97.8        | 776.65    | 1.44 | F   |
| Kileen Rd                                   | 18.4        | 129.65    | 1.00 | F   | 12.9        | 61.01     | 0.93 | F   |

### LinSig

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| Do Nothing Scenario (2022)                                       |                      |               |         |                      |               |         |
| Le Fanu Rd   | 7.7                  | 14.0          | 38.0    | 5.5                  | 18.5          | 28.8    |
| Kylemore North Park  | 9.0                  | 40.5          | 53.7    | 14.4                 | 36.2          | 67.0    |
| Kileen Rd  | 10.2                 | 23.5          | 52.8    | 16.6                 | 29.2          | 66.1    |
| <b>PRC (%)</b>   | 67.4                 |               |         | 34.4                 |               |         |
| Kylemore Road Bridge (OBC5A) Closure (2022)                      |                      |               |         |                      |               |         |
| Le Fanu Rd   | 19.2                 | 9.7           | 76.6    | 18.4                 | 16.9          | 69.9    |
| Kylemore North Park  | 83.1                 | 909.2         | 170.0   | 38.0                 | 203.2         | 105.9   |
| Kileen Rd  | 124.6                | 923.4         | 176.0   | 50.5                 | 210.1         | 108.0   |
| <b>PRC (%)</b>   | -95.5                |               |         | -20.0                |               |         |
| Kylemore Road Bridge (OBC5A) Closure (2028)                      |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 20.0                 | 9.6           | 78.9    | 19.3                 | 16.4          | 71.6    |
| Kylemore Rd Northbound   | 108.9                | 1153.0        | 213.9   | 66.4                 | 388.0         | 118.6   |
| Kylemore Ave   | 167.3                | 1204.08       | 231.2   | 83.9                 | 386.4         | 120.7   |
| <b>PRC (%)</b>   | -156.9               |               |         | -34.1                |               |         |
| Kylemore Road Bridge (OBC5A) Closure Sensitivity Analysis (2028) |                      |               |         |                      |               |         |
| Kylemore Rd Southbound   | 18.1                 | 10.4          | 73.1    | 16.6                 | 17.3          | 65.9    |
| Kylemore Rd Northbound   | 58.5                 | 588.6         | 133.7   | 30.6                 | 135.9         | 101.2   |
| Kylemore Ave   | 94.5                 | 641.7         | 142.0   | 36.2                 | 114.1         | 100.9   |
| <b>PRC (%)</b>   | -57.8                |               |         | -12.4                |               |         |

## A.2.5. JTC 5

### Junction9

| Arm   | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                  |             |           |      |     |             |           |      |     |
| Kylemore Park North left                    | 0.6         | 12.03     | 0.35 | B   | 0.9         | 14.13     | 0.46 | B   |
| Kylemore Park North right                   | 0.3         | 21.94/    | 0.25 | C   | 0.5         | 25.89     | 0.35 | D   |
| Kylemore Rd Southbound                      | 3.8         | 14.07     | 0.67 | B   | 3.0         | 12.61     | 0.64 | B   |
| Kylemore Road Bridge (OBC5A) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore Park North left                    | 62.6        | 1842.27   | 1.67 | F   | 60.9        | 1361.82   | 1.57 | F   |
| Kylemore Park North right                   | 224.5       | 1808.49   | 1.70 | F   | 152.3       | 1341.93   | 1.58 | F   |
| Kylemore Rd Southbound                      | 0           | 0         | 0    | A   | 0           | 0         | 0    | A   |

### LinSig

| Arm   | AM Peak              |               |         | PM Peak              |               |         |
|---|----------------------|---------------|---------|----------------------|---------------|---------|
|   | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| Do Nothing Scenario (2022)                  |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                      | 10.3                 | 11.9          | 55.6    | 11.0                 | 15.8          | 58.1    |
| Kylemore Rd Northbound                      | 7.3                  | 8.7           | 45.1    | 9.8                  | 11.2          | 53.7    |
| Kylemore Park North                         | 5.5                  | 40.4          | 54.0    | 6.6                  | 38.2          | 57.7    |
| <b>PRC (%)</b>                              | 62.0                 |               |         | 55.0                 |               |         |
| Kylemore Road Bridge (OBC5A) Closure (2022) |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                      | 0                    | 0             | 0       | 0                    | 0             | 0       |
| Kylemore Rd Northbound                      | 15.6                 | 35.5          | 79.8    | 17.5                 | 33.1          | 81.3    |
| Kylemore Park North                         | 18.3                 | 27.1          | 80.7    | 17.4                 | 30.4          | 81.0    |
| <b>PRC (%)</b>                              | 11.5                 |               |         | 10.7                 |               |         |
| Kylemore Road Bridge (OBC5A) Closure (2028) |                      |               |         |                      |               |         |
| Kylemore Rd Southbound                      | 0                    | 0             | 0       | 0                    | 0             | 0       |
| Kylemore Rd Northbound                      | 17.2                 | 38.5          | 83.7    | 19.4                 | 36.5          | 85.4    |
| Kylemore Park North                         | 20.4                 | 30.1          | 84.8    | 19.4                 | 33.5          | 85.0    |
| <b>PRC (%)</b>                              | 6.1                  |               |         | 5.4                  |               |         |

## A.2.6. HC 1

| Arm   | AM Peak              |               |         | PM Peak              |               |         |
|---|----------------------|---------------|---------|----------------------|---------------|---------|
|   | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                                       |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound   | 15.0                 | 59.6          | 88.5    | 10.6                 | 45.9          | 68.8    |
| Ballyfermot Rd Westbound  | 10.4                 | 27.7          | 58.2    | 13.0                 | 29.9          | 59.1    |
| Le Fanu Rd Southbound   | 6.6                  | 55.1          | 67.9    | 6.5                  | 51.3          | 55.2    |
| Ballyfermot Rd Eastbound  | 21.0                 | 45.6          | 89.9    | 16.0                 | 33.8          | 70.3    |
| <b>PRC (%)</b>  | 0.1                  |               |         | 28.1                 |               |         |
| <b>Kylemore Road Bridge (OBC5A) Closure (2022)</b>                      |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound   | 38.4                 | 221.5         | 107.2   | 11.2                 | 56.0          | 76.9    |
| Ballyfermot Rd Westbound  | 20.0                 | 29.6          | 74.7    | 20.7                 | 32.9          | 77.1    |
| Le Fanu Rd Southbound   | 10.3                 | 96.6          | 87.7    | 7.5                  | 64.8          | 70.3    |
| Ballyfermot Rd Eastbound  | 41.9                 | 150.8         | 104.9   | 14.1                 | 35.3          | 75.8    |
| <b>PRC (%)</b>  | -19.1                |               |         | 16.7                 |               |         |
| <b>Kylemore Road Bridge (OBC5A) Closure (2028)</b>                      |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound   | 58.9                 | 351.5         | 116.6   | 12.9                 | 62.8          | 83.0    |
| Ballyfermot Rd Westbound  | 21.5                 | 30.2          | 77.1    | 22.0                 | 33.5          | 79.4    |
| Le Fanu Rd Southbound   | 13.7                 | 135.0         | 96.0    | 8.4                  | 71.9          | 77.0    |
| Ballyfermot Rd Eastbound  | 81.4                 | 331.5         | 118.4   | 16.1                 | 42.5          | 84.8    |
| <b>PRC (%)</b>  | -31.5                |               |         | 6.1                  |               |         |
| <b>Kylemore Road Bridge (OBC5A) Closure Sensitivity Analysis (2028)</b> |                      |               |         |                      |               |         |
| Le Fanu Rd Southbound   | 27.6                 | 117.3         | 98.3    | 13.8                 | 59.0          | 75.5    |
| Ballyfermot Rd Westbound  | 22.2                 | 32.8          | 72.9    | 22.9                 | 34.9          | 74.7    |
| Le Fanu Rd Southbound   | 16.2                 | 161.2         | 99.3    | 8.4                  | 62.1          | 60.9    |
| Ballyfermot Rd Eastbound  | 28.9                 | 68.4          | 95.4    | 16.8                 | 35.6          | 68.7    |
| <b>PRC (%)</b>  | -10.3                |               |         | 19.2                 |               |         |

## A.2.7. HC 2

| Arm   | AM Peak     |           |      |     | PM Peak     |           |      |     |
|---|-------------|-----------|------|-----|-------------|-----------|------|-----|
|   | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| Do Nothing Scenario (2022)                  |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound                      | 1.3         | 8.93      | 0.57 | A   | 0.8         | 6.81      | 0.45 | A   |
| Ballyfermot Rd Westbound                    | 0.8         | 5.08      | 0.43 | A   | 1.2         | 6.17      | 0.54 | A   |
| Kylemore Rd Northbound                      | 1.4         | 6.41      | 0.57 | A   | 1.3         | 6.05      | 0.55 | A   |
| Ballyfermot Rd Eastbound                    | 2.4         | 14.62     | 0.70 | B   | 2.5         | 14.78     | 0.71 | B   |
| Kylemore Road Bridge (OBC5A) Closure (2022) |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound                      | 1.1         | 7.52      | 0.52 | A   | 0.8         | 6.49      | 0.43 | A   |
| Ballyfermot Rd Westbound                    | 1.0         | 5.47      | 0.50 | A   | 1.1         | 5.77      | 0.52 | A   |
| Kylemore Rd Northbound                      | .5          | 6.73      | 0.58 | A   | 1.5         | 7.07      | 0.59 | A   |
| Ballyfermot Rd Eastbound                    | 1.3         | 9.65      | 0.55 | A   | 1.8         | 11.74     | 0.63 | B   |
| Kylemore Road Bridge (OBC5A) Closure (2028) |             |           |      |     |             |           |      |     |
| Kylemore Rd Southbound                      | 1.3         | 8.27      | 0.56 | A   | 0.9         | 6.97      | 0.46 | A   |
| Ballyfermot Rd Westbound                    | .2          | 5.82      | 0.53 | A   | 1.3         | 6.22      | 0.55 | A   |
| Kylemore Rd Northbound                      | 2.5         | 10.83     | 0.70 | B   | 1.7         | 7.94      | 0.63 | A   |
| Ballyfermot Rd Eastbound                    | 1.5         | 10.74     | 0.59 | B   | 2.1         | 13.58     | 0.68 | B   |

## A.3. Memorial Road Bridge (OBC3) Closure - Delay Modelling

### A.3.1. JTC 6

| Arm   | AM Peak              |               |         | PM Peak              |               |         |
|---|----------------------|---------------|---------|----------------------|---------------|---------|
|   | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                 |                      |               |         |                      |               |         |
| Sarsfield Rd                                      | 12.3                 | 23.2          | 63.1    | 7.6                  | 33.9          | 51.8    |
| Inchicore Rd                                      | 3.7                  | 22.7          | 25.4    | 3.2                  | 12.5          | 20.0    |
| Grattan Cres                                      | 10.3                 | 29.0          | 63.0    | 9.2                  | 15.9          | 52.2    |
| <b>PRC (%)</b>                                    | 42.7                 |               |         | 72.3                 |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2022)</b> |                      |               |         |                      |               |         |
| Sarsfield Rd                                      | 9.3                  | 14.0          | 50.9    | 5.9                  | 21.4          | 36.5    |
| Inchicore Rd                                      | 6.8                  | 35.9          | 51.5    | 6.2                  | 22.1          | 36.5    |
| Grattan Cres                                      | 1.1                  | 30.7          | 12.3    | 1.2                  | 19.5          | 10.5    |
| <b>PRC (%)</b>                                    | 74.8                 |               |         | 146.2                |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2028)</b> |                      |               |         |                      |               |         |
| Sarsfield Rd                                      | 10.0                 | 14.4          | 53.4    | 6.3                  | 21.7          | 38.8    |
| Inchicore Rd                                      | 7.2                  | 36.4          | 53.9    | 6.6                  | 22.3          | 38.4    |
| Grattan Cres                                      | 1.2                  | 30.7          | 13.0    | 1.3                  | 19.6          | 11.1    |
| <b>PRC (%)</b>                                    | 67.1                 |               |         | 134.4                |               |         |



### A.3.2. JTC 8

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 19.3                 | 22.7          | 73.7    | 18.3                 | 24.4          | 72.6    |
| Kilmainham Ln  | 2.3                  | 71.0          | 40.5    | 5.6                  | 80.9          | 70.5    |
| South Circular Rd Southbound   | 13.1                 | 18.9          | 56.6    | 13.7                 | 20.9          | 58.3    |
| <b>PRC (%)</b>   | 22.1                 |               |         | 24.0                 |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2022)</b>                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 20.6                 | 35.3          | 84.9    | 37.8                 | 111.6         | 102.6   |
| Kilmainham Ln  | 2.3                  | 71.0          | 40.5    | 7.7                  | 135.4         | 89.8    |
| South Circular Rd Southbound   | 36.1                 | 38.1          | 91.4    | 64.1                 | 113.6         | 102.7   |
| <b>PRC (%)</b>   | -1.6                 |               |         | -14.1                |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2028)</b>                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 29.5                 | 64.7          | 97.2    | 55.8                 | 182.6         | 107.5   |
| Kilmainham Ln  | 2.4                  | 74.7          | 42.3    | 9.3                  | 162.7         | 95.0    |
| South Circular Rd Southbound   | 43.5                 | 50.8          | 95.9    | 93.3                 | 196.3         | 108.2   |
| <b>PRC (%)</b>   | -8.0                 |               |         | -20.3                |               |         |
| <b>Memorial Road Bridge (OBC3) Closure Sensitivity Analysis (2028)</b> |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 21.9                 | 33.5          | 82.8    | 39.0                 | 93.1          | 100.7   |
| Kilmainham Ln  | 2.4                  | 71.7          | 42.3    | 9.3                  | 162.7         | 95.0    |
| South Circular Rd Southbound   | 32.6                 | 33.9          | 88.6    | 42.3                 | 52.9          | 95.9    |
| <b>PRC (%)</b>   | 1.6                  |               |         | -11.9                |               |         |

### A.3.3. JTC 10

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 18.2                 | 36.6          | 75.4    | 14.2                 | 27.7          | 62.7    |
| Old Kilmainham   | 10.4                 | 43.0          | 59.9    | 9.9                  | 48.1          | 62.1    |
| South Circular Rd Northbound   | 15.6                 | 33.4          | 68.2    | 12.4                 | 26.6          | 56.2    |
| Emmet Rd   | 13.6                 | 46.0          | 76.4    | 6.8                  | 41.6          | 52.6    |
| <b>PRC (%)</b>   | 17.7                 |               |         | 43.5                 |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2022)</b>                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 18.6                 | 37.8          | 76.8    | 15.8                 | 34.2          | 69.8    |
| Old Kilmainham   | 4.8                  | 35.8          | 31.8    | 2.5                  | 33.6          | 18.0    |
| South Circular Rd Northbound   | 26.0                 | 51.1          | 89.7    | 25.5                 | 50.0          | 88.9    |
| Emmet Rd   | 16.7                 | 52.1          | 88.3    | 16.9                 | 53.5          | 87.2    |
| <b>PRC (%)</b>   | 0.4                  |               |         | 1.3                  |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2028)</b>                      |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 20.4                 | 40.3          | 80.5    | 17.0                 | 35.7          | 73.1    |
| Old Kilmainham   | 5.1                  | 36.1          | 33.6    | 2.7                  | 33.8          | 18.8    |
| South Circular Rd Northbound   | 29.9                 | 61.6          | 93.9    | 29.4                 | 59.7          | 93.2    |
| Emmet Rd   | 20.3                 | 60.2          | 92.6    | 19.8                 | 61.4          | 91.5    |
| <b>PRC (%)</b>   | -4.3                 |               |         | -3.6                 |               |         |
| <b>Memorial Road Bridge (OBC3) Closure Sensitivity Analysis (2028)</b> |                      |               |         |                      |               |         |
| South Circular Rd Southbound   | 20.4                 | 40.3          | 80.5    | 16.4                 | 33.1          | 70.5    |
| Old Kilmainham   | 5.1                  | 36.1          | 33.6    | 2.7                  | 35.5          | 19.9    |
| South Circular Rd Northbound   | 25.7                 | 50.7          | 89.4    | 23.1                 | 42.2          | 84.0    |
| Emmet Rd   | 18.2                 | 54.0          | 89.3    | 14.1                 | 50.9          | 83.9    |
| <b>PRC (%)</b>   | 0.7                  |               |         | 7.2                  |               |         |

### A.3.4. JTC 11

| Arm  | AM Peak              |               |         | PM Peak              |               |         |
|--|----------------------|---------------|---------|----------------------|---------------|---------|
|  | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) | Mean Max Queue (pcu) | Delay (s/pcu) | DOS (%) |
| <b>Do Nothing Scenario (2022)</b>                                      |                      |               |         |                      |               |         |
| Grattan Crescent   | 20.5                 | 71.1          | 95.4    | 11.3                 | 62.6          | 87.6    |
| Emmet Rd   | 13.4                 | 68.2          | 93.0    | 12.7                 | 47.3          | 86.2    |
| Tyrconnell Rd  | 17.9                 | 67.2          | 94.9    | 11.7                 | 46.4          | 86.7    |
| <b>PRC (%)</b>   | <b>-6.0</b>          |               |         | <b>2.8</b>           |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2022)</b>                      |                      |               |         |                      |               |         |
| Grattan Crescent   | 31.0                 | 120.7         | 101.5   | 10.5                 | 56.6          | 76.9    |
| Emmet Rd   | 7.0                  | 26.1          | 42.1    | 5.0                  | 22.2          | 77.1    |
| Tyrconnell Rd  | 34.0                 | 133.9         | 102.1   | 18.2                 | 44.9          | 70.3    |
| <b>PRC (%)</b>   | <b>-13.4</b>         |               |         | <b>7.1</b>           |               |         |
| <b>Memorial Road Bridge (OBC3) Closure (2028)</b>                      |                      |               |         |                      |               |         |
| Grattan Crescent   | 47.6                 | 185.6         | 106.4   | 11.9                 | 62.2          | 88.2    |
| Emmet Rd   | 7.3                  | 26.4          | 44.1    | 5.3                  | 22.4          | 34.6    |
| Tyrconnell Rd  | 47.9                 | 201.1         | 107.2   | 20.5                 | 50.5          | 88.3    |
| <b>PRC (%)</b>   | <b>-19.1</b>         |               |         | <b>2.0</b>           |               |         |
| <b>Memorial Road Bridge (OBC3) Closure Sensitivity Analysis (2028)</b> |                      |               |         |                      |               |         |
| Grattan Crescent   | 34.1                 | 124.6         | 102.1   | 10.4                 | 52.0          | 81.4    |
| Emmet Rd   | 7.7                  | 28.0          | 46.0    | 5.5                  | 23.6          | 35.8    |
| Tyrconnell Rd  | 35.6                 | 153.2         | 103.4   | 17.5                 | 45.9          | 83.6    |
| <b>PRC (%)</b>   | <b>-14.9</b>         |               |         | <b>7.7</b>           |               |         |